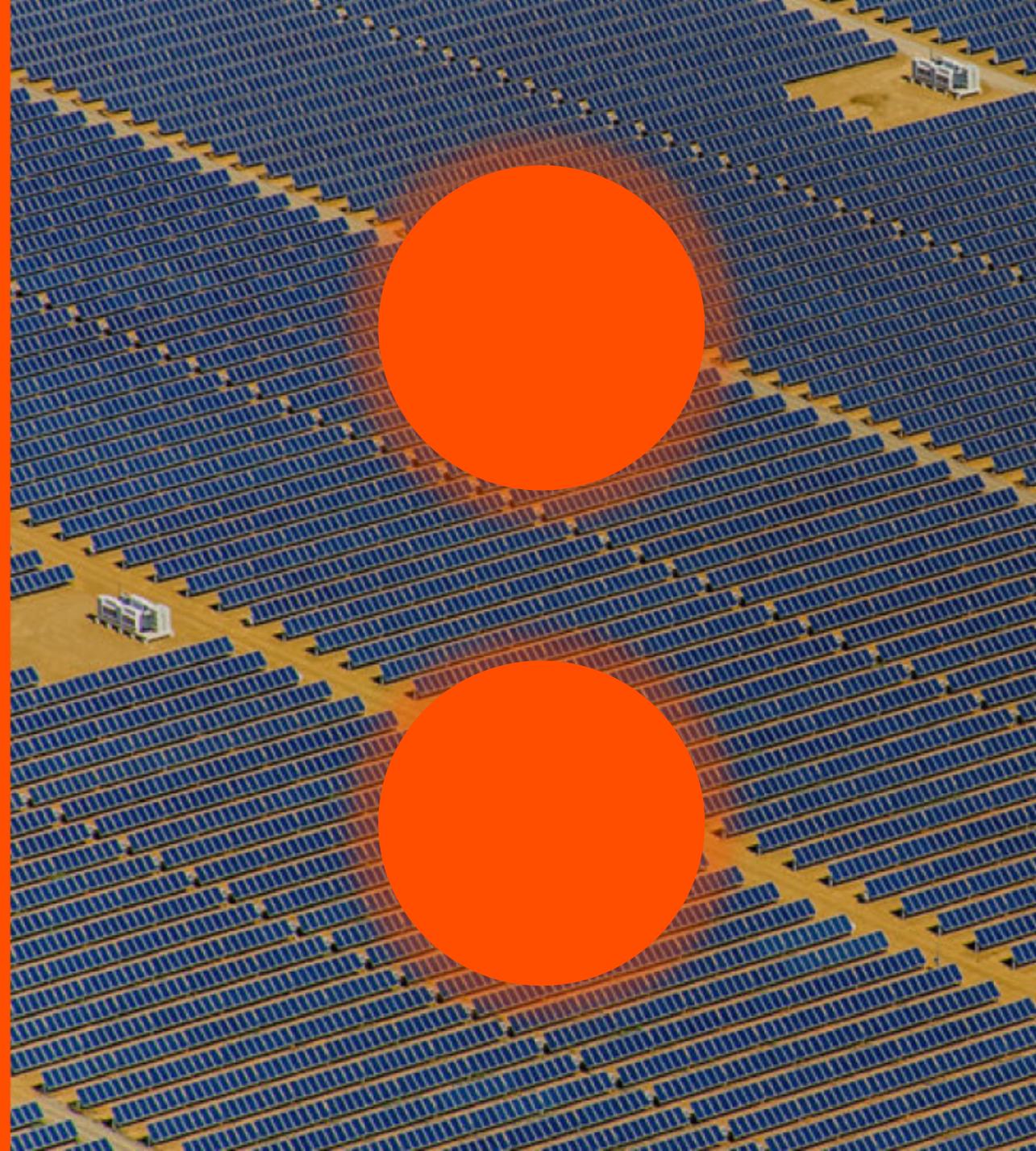




Considerations for an Efficient Generator Replacement Process

May 13, 2024

You Got Power



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PJM should strive for interconnection frameworks that enable the efficient use of the transmission system

Rationale

Transmission system capability is a scarce resource that should be allocated efficiently to support market objectives, in keeping with open access principles. A well-designed generator replacement process will enable generation owners to more effectively use existing interconnection rights to supply capacity to the grid.

Supporting Principles

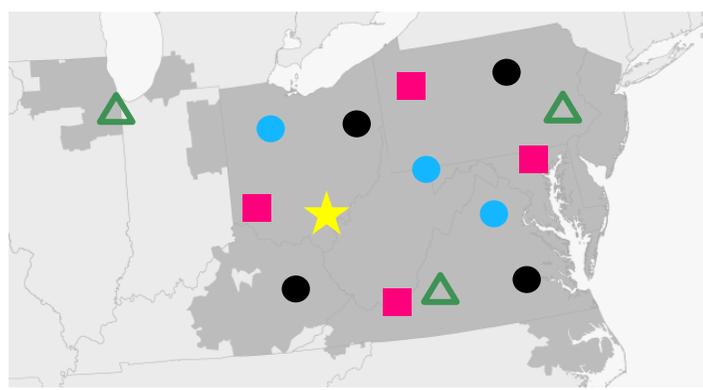
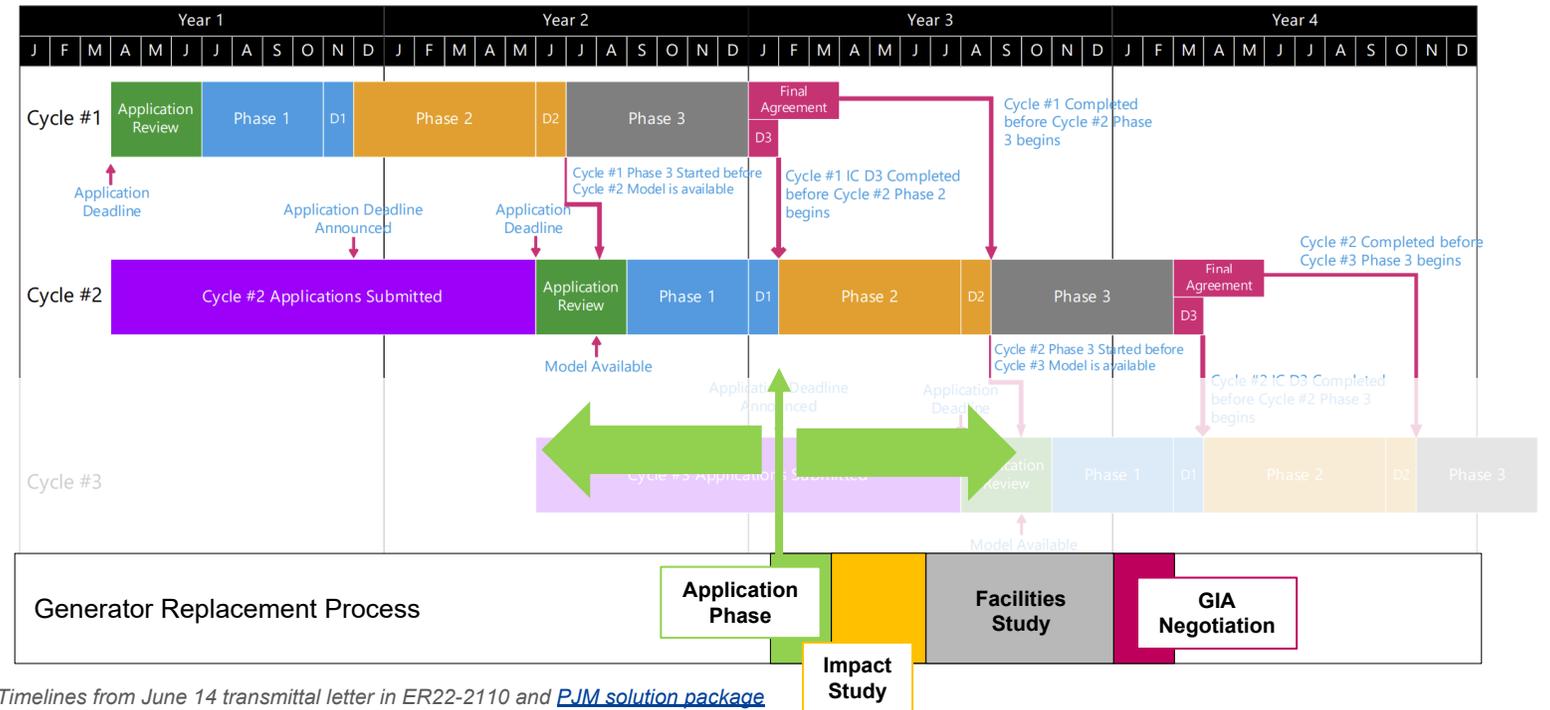
1. Ensure a safe and reliable grid
2. Facilitate the efficient entry and exit of resources
3. Maintain competitive markets that reduce consumer costs in the long run

Featured design components

- #19 – Priority between replacement requests and standard cycle requests
- #25 – Definition of “material adverse impacts”
- #9 – Commercial operation date of replacement generation

Replacement requests should be studied on top of the newest model from the most recent cluster

- Under PJM's current proposal, a replacement request that is submitted after the application window for a cycle has closed but before the Phase 3 model is built will be studied using a model that does not include interconnection requests (IRs) from the current active cycle.
- Under MN8's proposal, system capability will be preserved for all projects that had been accepted into a cluster prior to when the RGF entered the generator replacement process.

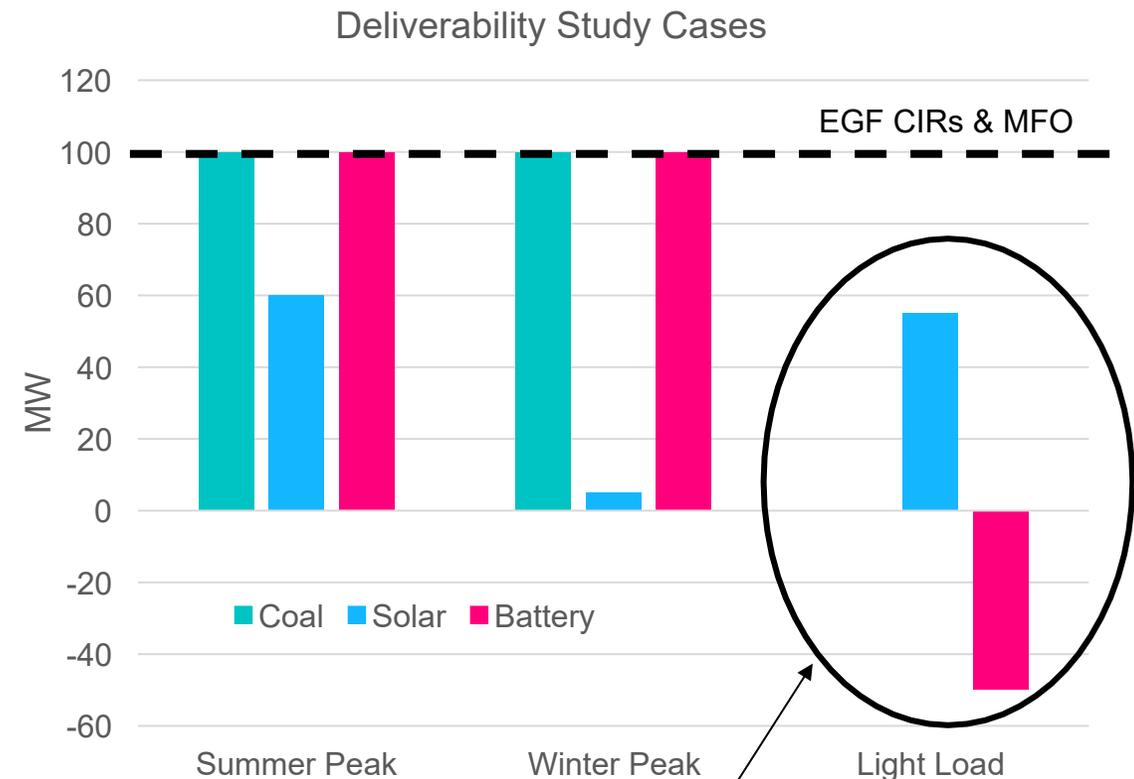


Key	Vintage	Prioritized over RGF in studies?	
		PJM	MN8
●	Existing Generation	Yes	Yes
●	Cycle #1 Phase 3	Yes	Yes
■	Cycle #2 Phase 1 or 2	No	Yes
△	Cycle #3 and later	No	No
★	Replacement Facility	N/A	N/A

- Under PJM proposal, only existing generation and Cycle #1 projects would be included in the model used to study the replacement request.
- Under MN8 proposal, existing generation, Cycle #1 projects, and Cycle #2 projects would be included in the model.
- It is reasonable to exclude projects that have not been accepted into a cluster (i.e., Cycle #3 and later).

Material adverse impact screen should test for system violations caused by the replacement generation facility

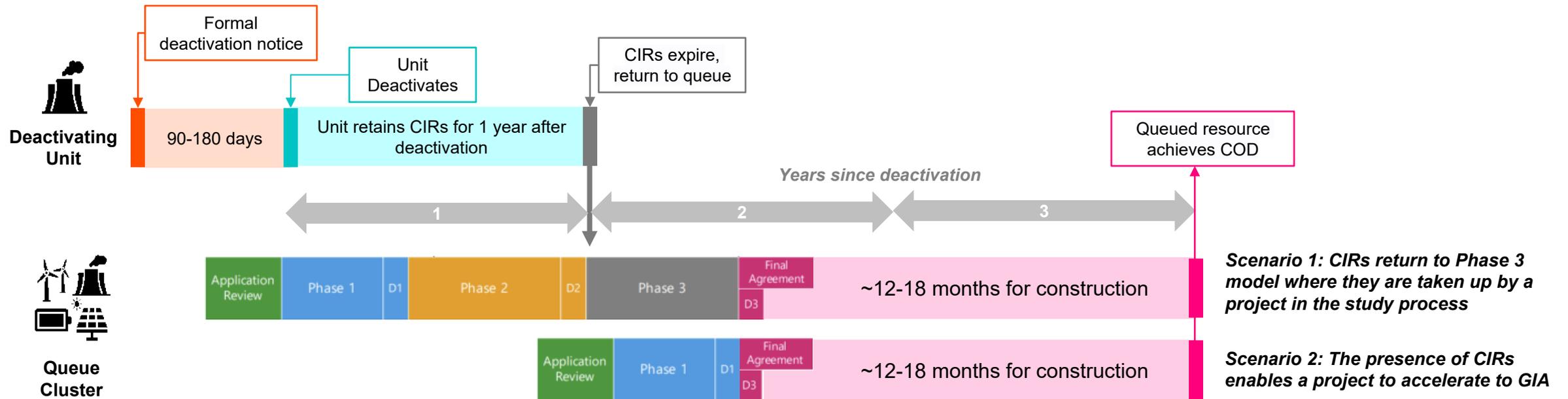
- PJM's proposed material adverse impact (MAI) standard requires that the impact of the replacement generation facility (RGF) be no greater than the existing generation facility (EGF) under all study cases to ensure that transmission capability is not being taken by RGF.
- Under MN8 proposal, RGF would be studied for reliability violations. RGF passes MAI screen if it can interconnect without triggering reliability violations using impact thresholds defined in Manual 14H Appendix B.
- By studying RGF requests using the newest model from the most recent cluster, RGF would not be taking transmission capability from any existing or prior queued generators.
- RGF cannot request additional CIR or MFO service through generator replacement process.



- Solar output in excess of coal output during LL study case triggers MAI
- Battery charging in any case triggers MAI when replacing resource that has not been studied for charging

Coal and solar values from [PJM education slides](#), battery values assumed; see [slide 7](#) for PJM's proposed MAI definition

Three-year commercial operation requirement ensures the generator replacement process is at least as fast as the standard cycle process



- In two “best case scenarios” under the status quo, we would expect CIRs to be taken up by the queue within 3 years of a generator retiring
- Requirement for RGF to achieve commercial operation within three years of EGF deactivation matches NYISO generator replacement COD requirement (see NYISO OATT [Attachment S Section 25.9.4](#))

Questions?

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